

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

Listing of Claims:

1. (Currently amended) A semiconductor device, comprising:
 - an interconnect layer provided on a semiconductor substrate;
 - a protective film provided on said interconnect layer;
 - an electrode pad provided on said protective film; and
 - an anti-oxidizing layer containing a same element as an element in said interconnect layer that is chemically bonded or alloyed with a different element which is different from said element contained in said interconnect layer, said anti-oxidizing layer being disposed between said interconnect layer and said protective film, wherein said electrode pad is in electrical contact with said interconnect layer and is disposed on said protective film in a position to permit contact by a probe, and wherein said different element of said anti-oxidizing layer is a metal having ~~has~~ a lower oxidation-reduction potential than that of said element contained in said interconnect layer, said element being a metal, and said anti-oxidizing layer being disposed between said interconnect layer and said protective film in a position that inhibits corrosion of said interconnect layer when an interface between said electrode pad and said interconnect layer is damaged by said probe.
2. (Original) The semiconductor device according to claim 1, wherein said interconnect layer is a copper-containing metal.

3. (Cancelled)

4. (Currently amended) The semiconductor device according to claim ~~[[3]]~~ 1, wherein said different element is a group IV element or a group VI element in long form periodic table.

5. (Original) The semiconductor device according to claim 4, wherein said different element is Ti or Si.

6. (Currently amended) ~~[[The]]~~ A semiconductor device according to claim 1, comprising:

an interconnect layer provided on a semiconductor substrate;

a protective film provided on said interconnect layer;

an electrode pad provided on said protective film; and

an anti-oxidizing layer containing a same element as an element in said

interconnect layer that is chemically bonded or alloyed with a different element which is

different from said element contained in said interconnect layer, said anti-oxidizing layer

being disposed between said interconnect layer and said protective film, wherein said

electrode pad is in electrical contact with said interconnect layer and is disposed on said

protective film in a position to permit contact by a probe, and wherein said different

element of said anti-oxidizing layer has a lower oxidation-reduction potential than that of

said element contained in said interconnect layer, and said anti-oxidizing layer being

disposed between said interconnect layer and said protective film in a position that

inhibits corrosion of said interconnect layer when an interface between said electrode pad

and said interconnect layer is damaged by said probe, wherein said protective film

includes a Ti layer or a TiN layer.

7. (Currently amended) ~~[[The]]~~ A semiconductor device according to claim 1, comprising:

an interconnect layer provided on a semiconductor substrate;

a protective film provided on said interconnect layer;

an electrode pad provided on said protective film; and

an anti-oxidizing layer containing a same element as an element in said

interconnect layer that is chemically bonded or alloyed with a different element which is different from said element contained in said interconnect layer, said anti-oxidizing layer being disposed between said interconnect layer and said protective film, wherein said electrode pad is in electrical contact with said interconnect layer and is disposed on said protective film in a position to permit contact by a probe, and wherein said different element of said anti-oxidizing layer has a lower oxidation-reduction potential than that of said element contained in said interconnect layer, and said anti-oxidizing layer being disposed between said interconnect layer and said protective film in a position that inhibits corrosion of said interconnect layer when an interface between said electrode pad and said interconnect layer is damaged by said probe, wherein said anti-oxidizing layer is a layer where the upper part of said interconnect layer is modified, and comprises said different element and said same element contained in said interconnect layer.

Claims 8 – 24 (Cancelled).

25. (Currently amended) ~~[[The]]~~ A semiconductor device according to claim 20, comprising:

an interconnect layer provided on a semiconductor substrate;

a protective film provided on said interconnect layer;

an electrode pad provided on said protective film; and

an anti-oxidizing layer containing a same element as an element in said

interconnect layer that is chemically bonded or alloyed with a different element which is

different from said element contained in said interconnect layer, said anti-oxidizing layer

being disposed between said interconnect layer and said protective film, wherein said

electrode pad is in electrical contact with said interconnect layer and is disposed on said

protective film in a position to permit contact by a probe, and said anti-oxidizing layer

being disposed between said interconnect layer and said protective film in a position that

inhibits corrosion of said interconnect layer when an interface between said electrode pad

and said interconnect layer is damaged by said probe, and wherein said protective film

includes a Ti layer or a TiN layer.

26. (Currently amended) ~~[[The]]~~ A semiconductor device according to claim 20, comprising:

an interconnect layer provided on a semiconductor substrate;

a protective film provided on said interconnect layer;

an electrode pad provided on said protective film; and

an anti-oxidizing layer containing a same element as an element in said

interconnect layer that is chemically bonded or alloyed with a different element which is different from said element contained in said interconnect layer, said anti-oxidizing layer being disposed between said interconnect layer and said protective film, wherein said electrode pad is in electrical contact with said interconnect layer and is disposed on said protective film in a position to permit contact by a probe, and said anti-oxidizing layer being disposed between said interconnect layer and said protective film in a position that inhibits corrosion of said interconnect layer when an interface between said electrode pad and said interconnect layer is damaged by said probe, and wherein said anti-oxidizing layer is a layer where the upper part of said interconnect layer is modified, and comprises said different element and said same element contained in said interconnect layer.

27. (Currently amended) A semiconductor device, comprising;

an interconnect layer provided over a semiconductor substrate;

an electrically conductive anti-oxidizing layer formed over, and in contact with, a part of said interconnect layer and containing a same element as an element in said interconnect layer that is chemically bonded or alloyed with a different element which is different from said element contained in said interconnect layer, and wherein said different element of said anti-oxidizing layer is a metal having ~~has~~ a lower oxidation-reduction potential than that of said element contained in said interconnect layer; and

a bonding pad metal film provided over said electrically conductive anti-oxidizing layer to form an electrical conduction with said interconnect layer.

28. (Currently Amended) A ~~The~~ semiconductor device ~~according to claim 27,~~ comprising:

an interconnect layer provided over a semiconductor substrate;

an electrically conductive anti-oxidizing layer formed over, and in contact with, a part of said interconnect layer and containing a same element as an element in said interconnect layer that is chemically bonded or alloyed with a different element which is different from said element contained in said interconnect layer, and wherein said different element of said anti-oxidizing layer is a metal having ~~has~~ a lower oxidation-reduction potential than that of said element contained in said interconnect layer; and

a bonding pad metal film provided over said electrically conductive anti-oxidizing layer to form an electrical conduction with said interconnect layer, wherein said interconnect layer is a copper-containing metal, and said electrically conductive anti-oxidizing layer contains one of Ti-Cu layer and Si-Cu layer.

29. (Previously Presented) The semiconductor device according to claim 28, further comprising:
- an electrically conductive protective film intervening between said electrically conductive anti-oxidizing layer and said bonding pad metal film.
30. (Previously Presented) The semiconductor device according to claim 29, wherein said electrically conductive protective film contains Ti layer and TiN layer.
31. (Previously Presented) The semiconductor device according to claim 30, further comprising:
- a solder ball adheres to said bonding pad metal film.
32. (New) The semiconductor device according to claim 27, wherein said interconnect layer is a copper-containing metal, and said electrically conductive anti-oxidizing layer contains one of Ti-Cu layer and Si-Cu layer.
33. (New) The semiconductor device according to claim 32, further comprising:
- an electrically conductive protective film intervening between said electrically conductive anti-oxidizing layer and said bonding pad metal film.
34. (New) The semiconductor device according to claim 33, wherein said electrically conductive protective film contains Ti layer and TiN layer.